must prepare a budgetary impact statement to accompany any proposed or final rule that includes a Federal mandate that may result in estimated annual costs to state, local, or tribal governments in the aggregate; or to private sector, of $100 million or more. Under section 205, the EPA must select the most cost-effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires the EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule.

The EPA has determined that the approval action promulgated does not include a Federal mandate that may result in estimated annual costs of $100 million or more to either state, local, or tribal governments in the aggregate, or to the private sector. This Federal action approves preexisting requirements under state or local law, and imposes no new requirements. Accordingly, no additional costs to state, local, or tribal governments, or to the private sector, result from this action.

G. Submission to Congress and the Comptroller General

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the U.S. Comptroller General prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This rule is not a "major" rule as defined by 5 U.S.C. 804(2).

H. Petitions for Judicial Review

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by February 22, 1999. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review, nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

Authority: This document is issued under the authority of sections 101, 110, 112, and 301 of the CAA, as amended (42 U.S.C. 7401, 7410, 7412, and 7601).

Dated: December 2, 1998.

William Rice,

Acting Regional Administrator, Region VII.

[FR Doc. 98–33840 Filed 12–21–98; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 86

A-96-57

[FRL–6196–4]

Control of Air Pollution From Motor Vehicles and New Motor Vehicle Engines; Modification of Federal On-board Diagnostic Regulations for Light-Duty Vehicles and Light-Duty Trucks; Extension of Acceptance of California OBD II Requirements

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: Today's action finalizes modifications to the federal on-board diagnostics regulations, including: harmonizing the emission levels above which a component or system is considered malfunctioning (i.e., the malfunction thresholds) with those of the California Air Resources Board (CARB) OBD II requirements; mandating that EPA OBD systems fully evaluate the entire emission control system, including the evaporative emission control system; indefinitely extending the allowance of deficiencies for federal OBD vehicles; indefinitely extending the allowance of optional compliance with the California OBD II requirements for federal OBD certification while also updating the allowed version of those California OBD II regulations to the most recently published version; providing flexibility to alternate fueled vehicles through the 2004 model year rather than providing flexibility only through the 1998 model year; updating the incorporation by reference of several recommended practices developed by the Society of Automotive Engineers (SAE) to incorporate recently published versions, while also incorporating by reference standardization protocol developed by the International Organization for Standardization (ISO). OBD systems in general provide substantial ozone benefits.

EFFECTIVE DATE: This action becomes effective January 21, 1999.

ADDRESSES: Materials relevant to this rulemaking are contained in Docket No. A–96–32. The docket is located at The Air Docket, 401 M. Street, SW., Washington, DC 20460, and may be viewed in room M1500 between 8:00 a.m. and 5:30 p.m., Monday through Friday. The telephone number is (202) 260–7548 and the facsimile number is (202) 260–4400. A reasonable fee may be charged by EPA for copying docket material.

FOR FURTHER INFORMATION CONTACT: Holly Pugliese, Vehicle Programs and Compliance Division, U.S. Environmental Protection Agency, 2000 Traverwood, Ann Arbor, Michigan 48105, Telephone 734–214–4288, or Internet e-mail at "pugliese.holly@epamail.epa.gov."

SUPPLEMENTARY INFORMATION:

Regulated Entities

Entities potentially regulated by this action are those which manufacturer new motor vehicles and engines. Regulated categories include:

Category	Examples of regulated entities
Industry	New motor vehicle and engine manufacturers.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your product is regulated by this action, you should carefully examine the applicability criteria in § 86.099–17 of title 40 of the Code of Federal Regulations. If you have questions regarding the applicability of this action to a particular product, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Table of Contents

I. Electronic Availability

Electronic copies of the preamble and regulatory text of this final rulemaking are available via the Internet on the Office of Mobile Sources (OMS) Home Page (http://www.epa.gov/OMSWWW/). Users can find OBD related information and documents through the following path once they have accessed the OMS Home Page: "Automobiles," "I/M & OBD," "On-Board Diagnostics Files."

II. Introduction and Background

On February 19, 1993 pursuant to Clean Air Act section 202(m), 42 U.S.C. 7521(m), the EPA published a final rulemaking (58 FR 9468) requiring manufacturers of light-duty vehicles (LDVs) and light-duty trucks (LDTs) to install on-board diagnostic (OBD) systems on such vehicles beginning with the 1994 model year. The regulations promulgated in that final rulemaking require manufacturers to install OBD systems that monitor emission control components for any malfunction or deterioration causing exceedance of certain emission thresholds. The regulations also require that the driver be notified of the need for repair via a dashboard light when the diagnostic system has detected a problem.

On May 28, 1997, the EPA published a notice of proposed rulemaking (62 FR 28932) that proposed changes to the federal OBD requirements. Those proposed changes would be implemented beginning with the 1999 model year. The proposed revisions included: harmonizing the emission levels above which a component or system is considered malfunctioning (i.e., the malfunction thresholds) with those of the California Air Resources Board (CARB) OBD II requirements; mandating that federal OBD systems fully evaluate the entire emission control system, including the evaporative emission control system; indefinitely extending the allowance of deficiencies for federal OBD vehicles; indefinitely extending the allowance of optional compliance with the California OBD II requirements for federal OBD certification while also updating the version of those California OBD II regulations to which manufacturers may certify to the most recently revised version; providing flexibility for alternate fueled vehicles through the 2004 model year rather than providing flexibility only through the 1998 model year; updating the incorporation by reference of several recommended practices developed by the Society of Automotive Engineers (SAE) to incorporate recently published versions, while also incorporating by reference two standardization protocols developed by the International Organization for Standardization (ISO). Today's action will finalize these and other proposed changes along with other minor changes as discussed below.

III. Requirements of the Final Rule

Following are the provisions promulgated by this final rulemaking. A complete discussion of the comments received on the proposed regulations and the Agency's response to those comments can be found in section IV—Discussion of Comments and Issues.

A. Federal OBD Malfunction Thresholds and Monitoring Requirements

Beginning in the 1999 model year, OBD systems on spark-ignition LDVs and LDTs must be able to detect and alert the driver of the following emission-related malfunctions or deterioration as evaluated over the original Federal Test Procedure (FTP; i.e., not including the Supplemental FTP): [1,2]

(1) Catalyst deterioration or malfunction before it results in an increase in NMHC [3] emissions equal to or greater than 1.5 times the NMHC standard, as compared to the NMHC emission level measured using a representative 4000 mile catalyst system.

(2) Engine misfire before it results in an exhaust emission exceedance of 1.5 times the applicable standard for NMHC, CO or NO_X.

(3) Oxygen sensor deterioration or malfunction before it results in an exhaust emission exceedance of 1.5 times the applicable standard for NMHC, CO or NO_X.

(4) Any vapor leak in the evaporative and/or refueling system (excluding the tubing and connections between the purge valve and the intake manifold) greater than or equal in magnitude to a leak caused by a 0.040 inch diameter orifice; any absence of evaporative purge air flow from the complete evaporative emission control system. On vehicles with fuel tank capacity greater than 25 gallons, the Administrator shall revise the size of the orifice to the feasibility limit, based on test data, if the most reliable monitoring method available cannot reliably detect a system leak equal to a 0.040 inch diameter orifice.

(5) Any deterioration or malfunction occurring in a powertrain system or component directly intended to control emissions, including but not necessarily limited to, the exhaust gas recirculation (EGR) system, if equipped, the secondary air system, if equipped, and the fuel control system, singularly resulting in exhaust emissions exceeding 1.5 times the applicable emission standard for NMHC, CO or NO_X. For vehicles equipped with a secondary air system, a functional check, as described in paragraph (b)(6), may satisfy the requirements of this paragraph provided the manufacturer can demonstrate that deterioration of the flow distribution system is unlikely. This demonstration is subject to Administrator approval and, if the demonstration and associated functional check are approved, the diagnostic system shall indicate a malfunction when some degree of secondary airflow is not detectable in the exhaust system during the check.

(6) Any other deterioration or malfunction occurring in an electronic emission-related powertrain system or component not otherwise described above that either provides input to or receives commands from the on-board computer and has a measurable impact on emissions; monitoring of components required by this paragraph shall be satisfied by employing electrical circuit continuity checks and, wherever feasible, rationality checks for

[1] The text presented here does not constitute regulatory text. The final regulatory text can be viewed immediately following this preamble.

[2] Note that, while malfunction thresholds are based on FTP emissions, this does not mean that OBD monitors need operate only during the FTP. All OBD monitors that operate during the FTP should operate in a similar manner during non-FTP conditions. The prohibition against defeat devices in § 86.094–16 applies to these rules.

[3] As a point of clarification, Tier 1 federal emissions standards are expressed in terms of NMHC. Therefore, in order to remain consistent, all references to HC will be referred to as NMHC.

computer input components (input values within manufacturer specified ranges), and functionality checks for computer output components (proper functional response to computer commands); malfunctions are defined as a failure of the system or component to meet the electrical circuit continuity checks or the rationality or functionality checks.

For compression-ignition engines, paragraph 1 above would apply only when the catalyst is needed for NMHC control, and paragraphs 2,3, and 4 above would not apply.

Upon detection of a malfunction, the malfunction indicator light (MIL) is to be illuminated and a fault code stored no later than the end of the next driving cycle during which monitoring occurs provided the malfunction is again detected. The only exception to this would be if, upon Administrator approval, a manufacturer is allowed to use a diagnostic strategy that employs statistical algorithms for malfunction determination (e.g., Exponentially Weighted Moving Averages (EWMA)). The Administrator considers such strategies beneficial for some monitors because they reduce the danger of illuminating the MIL falsely since more monitoring events are used in making pass/fail decisions. However, the Administrator will only approve such strategies provided the number of trips required for a valid malfunction determination is not excessive (e.g., six or seven monitoring events). Manufacturers are required to determine the appropriate operating conditions for diagnostic system monitoring with the limitation that monitoring conditions are encountered at least once during the first engine start portion of the applicable Federal Test Procedure (FTP) or a similar test cycle as approved by the Administrator. This is not meant to suggest that monitors be designed to operate only under FTP conditions, as such a design would not encompass the complete operating range required for OBD malfunction detection.

B. Similar Operating Conditions Window

The Agency is finalizing a revision to the engine operating conditions window associated with extinguishing the MIL for engine misfire and fuel system malfunctions. The federal OBD regulations will require that, upon MIL illumination and diagnostic trouble code storage associated with engine misfire or fuel system malfunctions, the manufacturer is allowed to extinguish the MIL provided the same malfunction is not again detected during three subsequent sequential trips during which engine speed is within 375 rpm, engine load is within 20 percent, and the engine's warm-up status is the same as that under which the malfunction was first detected, and no new malfunctions have been detected.

C. Extension for Acceptance of California OBD II as Satisfying Federal OBD

The Agency is finalizing a provision allowing optional compliance with the current California OBD II requirements, excluding the California OBD II anti-tampering requirements, as satisfying federal OBD. The current California OBD II requirements are in CARB Mail-Out #97-24 (EPA Air Docket A-96-32, Document IV-H-01, December 9, 1997). Manufacturers choosing the California OBD II demonstration option need not comply with portions of that regulation pertaining to vehicles certified under the Low Emission Vehicle Program as those standards are not federal standards. Additionally, manufacturers choosing the California OBD II demonstration option need not comply with section (b)(4.2.2), which requires evaporative system leak detection of a 0.02 inch diameter orifice and represents a level of stringency beyond that ever appropriately considered for federal OBD compliance. The Agency is finalizing a provision that will require evaporative leak detection of a 0.04 inch diameter orifice, with some flexibility afforded to vehicles with a fuel tank capacity greater than 25 gallons (see Sections III.A.4 and IV.B.2.d). Lastly, manufacturers choosing the California OBD II demonstration option need not comply with section (d), which contains the anti-tampering provisions of the California regulations.

D. Deficiency Provisions

Today's action finalizes a provision to extend the current flexibility provisions (i.e., "deficiency provisions") contained in § 86.094-17(i) indefinitely, rather than being eliminated beyond the 1999 model year. This will allow the Administrator to accept an OBD system as compliant even though specific requirements are not fully met. This provision neither constitutes a waiver from federal OBD requirements, nor does it allow compliance without meeting the minimum requirements of the CAA (i.e., oxygen sensor monitor, catalyst monitor, and standardization features).

E. Provisions for Alternate Fueled Vehicles

EPA is finalizing a flexibility provision for alternate fuel vehicles that will apply through the 2004 model year. Such vehicles will be expected to comply fully with the OBD requirements proposed today during gasoline operation (if applicable), and during alternate fuel operation except where it is technologically infeasible to do so. Any manufacturer wishing to utilize this flexibility provision must demonstrate technological infeasibility concerns to EPA well in advance of certification.

F. Applicability

Today's finalized provisions to federal OBD malfunction thresholds, monitoring requirements, deficiency provisions, alternate fuel provisions, and the recommended practices incorporated by reference apply to all 1999 and later model year light-duty vehicles and light-duty trucks for which emission standards are in place or are subsequently developed and promulgated by EPA.

G. Update of Materials Incorporated by Reference

Today's action finalizes the incorporation by reference of ISO 9141-2 February 1994, "Road vehicles—Diagnostic systems—Part 2: CARB requirements for interchange of digital information," as an acceptable protocol for standardized on-board to off-board communications. This standardized procedure was proposed in September 24, 1991 (56 FR 48272), but could not be adopted in the February 1993 final rule because the ISO document was not yet finalized. ISO 9141-2 has since been finalized and is incorporated by reference in today's final regulatory language.

Today's action also finalizes the incorporation by reference of updated versions of the SAE procedures referenced in the current OBD regulation. These SAE documents are J1850, J1979, J2012, J1962, J1877 and J1892.

The incorporation by reference of these documents was approved by the Director of the Federal Register in a letter dated December 15, 1997. A copy of this letter may be found in the docket for this rulemaking (A-96-32, IV-H-02).

H. Certification Provisions

The certification provisions associated with OBD, contained in § 86.099-30, are today revised to reflect the proposed changes to the OBD malfunction thresholds and monitoring requirements.

IV. Discussion of Comments and Issues

A. Federal OBD Malfunction Thresholds

1. Summary of Proposal

EPA proposed to substitute its current approach for OBD malfunction thresholds for an approach consistent with the malfunction thresholds in the California OBD II regulations. Specifically, EPA proposed to revise the federal OBD malfunction thresholds such that they be based not on baseline emissions, but rather the emissions standards themselves. The proposed revisions would require identification of malfunctions of powertrain systems or components when emissions exceed 1.5 times the applicable federal standard.

For catalyst deterioration or malfunction, the proposed revisions would require identification when emissions exceed 1.5 times the NMHC standard as compared to the NMHC emission level measured using a representative 4000 mile catalyst system. For example, a vehicle with 4000 mile emissions of 0.10 g/mi NMHC would have a catalyst malfunction threshold of 0.475 g/mi NMHC [(1.5) × (0.25 g/mi NMHC) + 0.10 g/mi NMHC = 0.475 g/mi NMHC].

For evaporative leak detection, the proposal eliminated the 30 g/test emission threshold and instead requires detection of any hole equivalent to, or greater in size than, one with a 0.04 inch diameter.

2. Summary of Comments

All the comments specifically referring to the proposed modifications to the federal OBD malfunction thresholds were supportive. One comment also recommended that the Agency incorporate a provision that would allow for a two year carryover of systems that are fully compliant with the current EPA OBD thresholds. This commenter has chosen to certify most of its light-duty fleet to the EPA thresholds since the 1996 model year, rather than choosing the California OBD II compliance option. The commenter goes on to state that their OBD compliance plans have already been made under the assumption that the EPA thresholds would remain a viable compliance option and to require compliance with the thresholds finalized today would be overly burdensome while providing no environmental benefit.

3. Response to Comments

The Agency concurs with the comments received and will finalize changes to the malfunction thresholds as follows. The finalized regulations will require identification of misfires and malfunction of oxygen sensors and all other powertrain systems or components directly intended to control emissions (e.g., evaporative purge control, EGR, secondary air system, fuel control system) when emissions exceed the specified emission threshold of 1.5 times the applicable federal emission standard. For evaporative systems, leak detection will be required for any hole equivalent to, or greater in size than, one with a 0.04 inch diameter. For catalyst deterioration, the threshold is an increase of 1.5 times the applicable standard compared to emissions from a representative catalyst run for 4000 miles. Additionally, as stated in the NPRM, the Agency is concerned about penalizing OEMs or small volume manufacturers who had proactively set out to meet the EPA OBD requirements and the Agency agrees that it would be overly burdensome to require manufacturers to redesign systems that are already in production. Therefore, the Agency will finalize a provision that will allow for a two year carryover period for systems that are fully compliant with the current EPA OBD regulations contained in § 86.098–17, paragraphs (a) through (i).

B. Expanded Federal OBD Monitoring Requirements

1. Summary of Proposal

The proposal outlined requirements for monitoring of emission-related powertrain components that provide information to and receive commands from the on-board computer whose malfunction may impact emissions or may impair the ability of the OBD system to perform its job (e.g. throttle position sensor, coolant temperature sensor, vehicle speed sensor, etc.). These components must be monitored, at a minimum, for electrical circuit continuity checks, and effective rationality and/or functionality checks. Deterioration or malfunction of these components will be identified when a component fails the circuit continuity check or the rationality or functionality check.

In contrast, the original EPA OBD requirements left the monitoring of many of these components to the discretion of the manufacturer. Should the manufacturer determine that any such components were not likely to malfunction, or upon their malfunction they would not cause exceedance of the emission thresholds, then such components need not be monitored. The proposed change was that this optional monitoring approach be eliminated and be replaced with mandatory monitoring requirements.

2. Summary of Comments

There were several comments regarding specific proposed changes to the monitoring requirements.

(a) Regarding secondary air system monitoring requirements, the Agency proposed that this system be monitored for deterioration or malfunction at 1.5 times the applicable standard. The American Automobile Manufacturers Association (AAMA) recommended that only a functionality check is feasible for this system rather than the proposed emissions based monitor. Manufacturers have already invested in an monitoring strategy which conducts a functional check of the secondary air system. AAMA argues that in order to implement an emissions based monitor to meet the proposed federal requirements, manufacturers would have to add costly hardware that will likely result in no additional air quality benefits. AAMA suggests that only a functional check be required with administrator approval.

(b) Regarding the proposed functionality and rationality check provisions for electronic powertrain component monitors, AAMA recommended that EPA require functionality and rationality checks only when they are feasible. The comment argues that, while manufacturers have successfully implemented rationality and/or functionality checks on many of the comprehensive components, they have found that for some components such as the intake air temperature sensor, monitoring for functionality and/or rationality would require development and implementation of complex monitoring strategies that, in the end, result in no additional air quality benefit.

(c) Regarding catalyst damage misfire monitoring requirements, AAMA recommended that EPA not require continuous MIL illumination following catalyst damage misfire until it is detected on two consecutive driving cycles or the next driving cycle in which similar conditions are encountered. AAMA is concerned that the current provisions for catalyst damage misfire detection may result in detection of infrequent misfires that are not related to any hardware malfunction. Such misfires are typically the result of water in the gasoline or water vapor in the fuel systems. As a result, no repair can be made because the problem is not the result of a hardware of software malfunction.

(d) Regarding evaporative system monitoring, AAMA recommended that, for reasons of technological feasibility,

EPA should allow a larger orifice threshold for evaporative system monitors on vehicles with fuel tank capacity greater that 25 gallons. AAMA states that, on fuel tanks with a capacity of greater than 25 gallons, it is not possible to reliably detect such small leaks. The comment argues that the larger vapor volume possible with large volume tanks results in very small pressure changes associated with a 0.04 inch hole. Such small pressure changes cannot be reliably detected using existing leak detection strategies. As a result, these smaller pressure changes are more difficult to detect under typical driving conditions on vehicles with large fuel tank capacity.

(e) Power take-off units are used to provide power from a vehicle's engine to an auxiliary device such as a snow plow blade. Regarding OBD detection during operation of power take-off units, AAMA recommended allowing disablement of certain diagnostics during power take-off unit operation. The comment states that many diagnostics cannot function reliably during power take-off operation due to the unpredictable load that is applied under these operations, which results in a high risk of false MIL illumination. The comment argues that, due to small volumes of such vehicles and/or infrequent operation of power take-off mode, this disablement will have little or no impact on air quality.

(f) Associated with the provision allowing the use of statistical algorithms, AAMA recommended replacing the term "monitoring event" with the term "driving cycle" for purposes of clarity and consistency. The comment argues that the Agency's definition of "monitoring event" is unclear and recommends using CARB's definition of "driving cycle" for consistency.

(g) The Agency proposed regulatory language that would require OBD systems to detect and identify any deterioration or malfunction occurring in a powertrain system or component directly intended to control emissions. A comment was received from AAMA specifically referring to the positive crankcase ventilation (PCV) system as being an emission related component for which no cost effective monitoring strategies currently exist. Further, the comment states that since the proposed requirement is effective with the 1999 MY, manufacturers will not have sufficient lead time to both develop cost effective monitoring strategies, and implement those strategies on new vehicles. AAMA recommends finalizing a provision similar to one found in the California OBD II regulations that would allow manufacturers to design a robust PCV system in lieu of monitoring. AAMA also recommends allowing sufficient leadtime for manufacturers, consistent with the CARB OBD II requirements, to implement necessary changes to the PCV system.

3. Response to Comments

(a) The Agency agrees that there may be technological feasibility issues in requiring detection of deterioration of secondary air systems at 1.5 times the standard. Therefore, the Agency will finalize a provision allowing an optional functional check of the secondary air system in lieu of the emission based monitor, with Administrator approval. The Agency believes that such a provision will have no adverse impact on air quality and will still result in implementation of the most technologically effective secondary air system monitors.

(b) The Agency agrees with commenters that there are some feasibility issues with rationality and functionality checks for certain electronic powertrain components. To address this concern, the Agency will finalize a provision mandating rationality and functionality checks unless the manufacturer can demonstrate technological infeasibility. Upon receiving Administrator approval of that demonstration, applicable monitoring requirements may be waived.

(c) The Agency agrees with the commenter's concerns that the current provisions for detection and identification of catalyst damaging misfire may increase the likelihood of unserviceable MIL illuminations. The Agency will finalize a provision to allow for continuous MIL illumination for catalyst damage misfire only after it is detected on two consecutive driving cycles or the next driving cycle under which similar conditions are encountered.

(d) The Agency agrees with the concerns of AAMA that the proposed requirements for evaporative system leak detection may not be feasible for fuel tanks with a capacity of greater than 25 gallons. The Agency will finalize a provision to allow a larger orifice threshold for evaporative system leak detection for fuel tanks with a capacity greater than 25 gallons. Manufacturers wishing to utilize this flexibility must obtain Administrator approval prior to certification.

(e) The Agency agrees with commenters that vehicles equipped with power take-off units may not be able to have fully functioning OBD systems during power take-off unit operation. The Agency is finalizing a provision to allow for the disablement of the OBD system during, and only during, power take-off operation.

(f) The Agency agrees with commenters that there may be some confusion with the definitions of "driving cycle" and "monitoring event" with regards to the use of statistical algorithms for MIL illumination. To avoid confusion with terminology used in the CARB OBD II regulations, the Agency will replace the term "monitoring event" with the term "driving cycle." This is consistent with the Agency's intent behind the term "monitoring event" so the change has no impact on OBD requirements other than to eliminate potential confusion.

(g) The Agency agrees with comments associated with monitoring of PCV systems. The Agency will finalize a provision that will allow manufacturers to design and implement robust PCV systems in lieu of monitoring those systems. With regards to appropriate leadtime, the Agency will allow for appropriate leadtime to implement necessary changes to the PCV system but will expect such changes to progress as rapidly as is practical.

C. Extension for Acceptance of California OBD II as Satisfying Federal OBD.

1. Summary of Proposal

EPA proposed to extend indefinitely the existing provision allowing optional compliance with the California OBD II requirements, excluding the California OBD II anti-tampering provisions and the 0.02 inch evaporative leak detection provision, as satisfying federal OBD. Currently, this compliance option, which is used by most manufacturers, ends with the 1998 model year. The proposal sought to eliminate that 1998 model year restriction, making the California OBD II compliance option applicable indefinitely. EPA also proposed to update the version of California OBD II allowed for optional federal OBD compliance. The NPRM noted that the current version of CARB's regulations were contained in Mail-Out #96–34. However, EPA noted that CARB Mail-Out #96–34 was intended primarily for public comment purposes. EPA stated that it would accept the final version of the revised California OBD II regulations in its final rule if relevant portions of the final version are acceptable for federal OBD compliance demonstration. EPA published a Notice of Document Availability (63 FR 8386) on February 19, 1998 announcing that the final version of CARB's OBD II regulations (CARB Mail-Out #97–24)

had been completed and placed in the regulatory docket for this rulemaking (EPA Air Docket A–96–32, IV–H–01). EPA stated that the final CARB OBD II regulations were appropriate for federal OBD compliance and also placed in the docket a detailed analysis of the minor differences between CARB Mail-Outs #96–34 and #97–24 (EPA Air Docket A–96–32, IV–B–01). EPA provided thirty days (until March 23, 1998) for any parties to comment on Mail-Out #97–24.

The proposal stated that manufacturers choosing the California OBD II demonstration option need not comply with portions of that regulation pertaining to vehicles certified under the Low Emission Vehicle Program as those standards are not federal emission standards. The demonstration of compliance with California OBD II need only show compliance as correlated to the applicable federal emission standards, not California standards. Additionally, manufacturers choosing the California OBD II demonstration option need not comply with section (b)(4.2.2) which pertains to all vehicles regardless of emission standards. That section requires evaporative system leak detection monitoring down to a 0.02 inch diameter orifice and represents a level of stringency beyond that ever appropriately considered for federal OBD compliance. Lastly, manufacturers choosing the California OBD II demonstration option need not comply with section (d) which contains the anti-tampering provisions of the California OBD II regulations.

2. Summary of Comments

Several commenters expressed strong support for a provision to indefinitely extend the allowance of California OBD II as satisfying federal OBD. Commenters stated that this option allows flexibility and decreases the certification burdens associated with dual certification.

However, a comment from automotive aftermarket associations, primarily builders of aftermarket parts, expressed concern that the Agency is abdicating its federal emissions rulemaking and certification authority by accepting CARB OBD II as meeting federal OBD for any time period. The comment claims that EPA is inappropriately delegating its authority and violating section 177 of the Clean Air Act. This comment strongly objects to a provision that would extend the existing provision indefinitely, suggesting that, by allowing optional compliance with California OBD II requirements, EPA will ensure that such vehicles will be equipped with anti-tampering devices that are allowed under the CARB OBD II regulations. The comment goes on to suggest that simply removing the anti-tampering provision from the federal OBD regulations in effect does little, because it still permits manufacturers to install anti-tampering devices on their vehicles. The aftermarket associations represented in the comment believe that anti-tampering devices violate sections 202(m) and 207 of the Clean Air Act and that the federal OBD regulations should prohibit anti-tampering devices altogether. The comment claims that the ability to reprogram the computer is an important feature of vehicle service and repair, and that the access to reverse engineer and ability to reprogram must be made available to the automotive aftermarket.

The comment also objects to EPA's decision to extend this compliance option beyond the 1998 model year while the commenters' challenge to an earlier rule dealing with this issue is being heard by the federal court of appeals for the D.C. Circuit. Further, the comment objects to EPA's note in the proposal that EPA would use the final version of California's OBD II regulations in its final rule, if the version of the California regulations is judged appropriate. The comment states that it would not have an effective opportunity to comment on the final rule.

The comment also alleges that EPA will adopt any changes that CARB may make in the future, without allowing commenters to participate in any such rulemaking. In particular, the comment notes that California's regulations may not promote access and ease of use of OBD systems. The comment also questions whether consumers will be more satisfied with vehicles certified to the California OBD II threshold option, rather than to the federal OBD thresholds.

The aftermarket associations provided a later comment providing four alleged incidences where false MIL illumination problems were encountered in the automotive aftermarket. These incidences allegedly support their claim that tampering protection devices may prevent aftermarket service providers from installing aftermarket parts. The associations state that EPA must either prohibit anti-tampering devices that prevent parts manufacturers from reverse engineering, or must require automobile manufacturers to provide the information necessary to build the aftermarket parts.

In response to CARB's December 1996 proposed revisions to their OBD II requirements, Mr. Jack Heyler expressed concerns over the ability of independent repair shops to reprogram vehicle computers (EPA Air Docket A–96–32, Document IV–H–14). Mr. Heyler also expressed concern over the ability of automotive aftermarket to design and manufacture parts and diagnostic tools. The California Automotive Wholesalers' Association (CAWA) expressed concerns over the potential economic impact on the thousands of businesses within California's automotive aftermarket repair industry due to the lack of diagnostic and service information availability requirements under the California OBD II regulation and the anti-tampering provisions of that regulation. In a joint statement made on behalf of several aftermarket associations, the Motor Equipment Manufacturers Association (MEMA) expressed strong support of the staff recommendation to eliminate the anti-tampering requirements applicable to electronically reprogrammable vehicles with OBD II. Mr. Haluza went on to suggest that all of Section 1968.1(d) on anti-tampering provisions should be eliminated from the OBD II regulation. Further, Mr. Haluza suggested that California "must take affirmative steps to not grant certification to vehicles which contain any tampering protection which would prevent or restrict access to OBD data or system in violation of section 202 of the U.S. Clean Air Act."

AAMA provided comments supporting the extension of the California OBD II compliance option. AAMA stated that the extension would allow manufacturers to focus their energies on developing and perfecting a single OBD system, rather than diverting resources to meet two sets of OBD thresholds. In its comments, AAMA expressed its view that the aftermarket comments are not grounded on any statutory or evidentiary basis. AAMA argued that EPA is not abdicating its responsibility under the Clean Air Act or violating any section of the Act.

3. Response to Comments

The Agency will finalize a provision to allow for indefinite acceptance of the California OBD II requirements as outlined in CARB Mail-Out #97–24 as meeting federal OBD requirements. The adverse comments regarding the indefinite extension of allowing California OBD II regulations as satisfying federal OBD are focused on two main issues. The first issue regards EPA's alleged abdication of federal authority to California in the establishment of emissions regulations. The adverse comments argue that allowing manufacturers to optionally certify vehicles to the California OBD II regulations to satisfy federal OBD requirements is an abdication of federal

authority to set air quality standards. The Agency has consistently stated that allowing manufacturers to satisfy federal OBD requirements by demonstrating compliance with California OBD II requirements is simply a compliance option, not an abdication of federal authority. This option allows manufacturers to implement one OBD system nationwide that fully meets the intent of the Clean Air Act and its amendments. The Agency has clearly not abdicated its authority. EPA has followed proper regulatory procedures in considering the acceptability of the California regulations in satisfying federal OBD.

EPA has provided notice and opportunity to comment on the appropriateness of allowing compliance with California's OBD II regulations to be used as a federal compliance option, and EPA has provided its responses to any adverse comments. EPA has also followed appropriate rulemaking procedures in considering whether revisions to California OBD II regulations are appropriate for federal compliance purposes, and EPA will continue to do so if, in the future, it determines that it is appropriate to allow compliance with later revisions of California's OBD II regulations.

EPA independently reviews California OBD II regulations to determine their appropriateness. Any decision to include such regulations is premised on such regulations being consistent with and appropriate under the Clean Air Act. EPA has found that California's OBD II regulations appropriately implement the requirements of section 202(m) and that allowing compliance with such regulations as a compliance option is an appropriate policy, promoting national consistency with no loss of environmental protection. EPA notes that, in the case of certain subparts of California's OBD II regulations (e.g. California's anti-tampering regulations and California's 0.02 inch evaporative leak detection monitoring regulations) EPA has, in its discretion, decided not to require compliance with such subparts for the purposes of compliance with federal regulations. EPA also notes that, with regard to the California regulations actually included in this compliance option, the commenters have not provided any argument or evidence that such regulations are illegal or inappropriate. EPA operates its own OBD certification and compliance program and makes all determinations regarding whether vehicles may be certified as complying with federal OBD regulations.

Regarding the comment that extending the compliance option is contrary to section 177, EPA fails to see how its action has any effect on states' ability to choose to adopt California's emission standards. EPA has neither required nor forbidden states from adopting such standards. The Virginia v. EPA case referenced in the comment is inapposite, as that case dealt with EPA specifically requiring states to implement the California LEV standards, though EPA could not itself promulgate such standards under its own authority under section 202 of the Act. Unlike that case, here EPA is promulgating regulations under its own acknowledged authority to promulgate OBD regulations under section 202(m) of the Act. This final action places no obligation on states to promulgate any regulations. EPA refers to its responsive brief in MEMA v. EPA, No. 96–1397 (D.C. Cir), for further discussion (EPA Air Docket A–96–32, Document IV–H–12.)

The second major issue argued in the adverse comments regards anti-tampering devices. The adverse comments suggest that the Agency's unwillingness to promulgate provisions that prohibit auto manufacturers from installing anti-tampering devices violates the intent of section 202(m) of the Clean Air Act. The Agency believes that sections 202(m) (4) and (5) of the Act were designed to ensure that independent repair shops would be able to (1) access fault codes and other output generated by a vehicle's OBD system through a generic scanning device, (2) understand what the output means without the need of a special decoding device available only from the manufacturer, and (3) receive nonproprietary information regarding repairing OBD and emission-related malfunctions, including the information vehicle manufacturers provide to their dealers. The Agency has consistently argued that these sections of the Act were not intended to require manufacturers to give away proprietary information concerning the internal computer codes within the vehicle's computer. California's anti-tampering provisions, as well as anti-tampering measures that manufacturers voluntarily install in vehicles, protect these proprietary codes and thus do not violate the requirements of section 202(m). Moreover, such codes are not the type of information contemplated under section 202(m) (4) and (5), as they are internal to the vehicle, and are not useful for automotive repair, as opposed to the manufacture of automotive parts. The Agency has promulgated separate regulations on the availability of service information (60 FR 55521) that outline what types of information manufacturers must make available to interested parties. These regulations, among other things, require manufacturers to provide independent repair shops with the same ability to reprogram that the manufacturers provide to their own dealers. These regulations are not affected by this rulemaking. The Agency is satisfied that the existing regulations, as well as the regulations being finalized today, meet the full intent of the Clean Air Act.

Regarding whether California's OBD II regulations promote access and ease of use of OBD systems, California's OBD II regulations have always contained provisions ensuring uncontrolled access to, and ease of use of, the OBD system using generic tools. These regulations are very similar to EPA's own access regulations. Moreover, though California's OBD II regulations do not contain service information availability requirements, EPA's service information regulations are equally applicable to vehicles choosing either the California thresholds compliance option or the federal thresholds compliance option.

The D.C. Circuit recently issued its decision upholding EPA's interpretation of section 202(m)(4) and (5), as it pertained to two earlier EPA actions related to its and California's OBD regulations. *MEMA* v. *Nichols*, 142 F.3d 449 (D.C. Circuit, 1998).

Furthermore, as EPA has found on several earlier occasions, the anti-tampering provisions do not violate any of the provisions of section 207 of the Act. EPA's determination that anti-tampering provisions do not violate the Act does not contravene manufacturers' obligations to abide by section 207. Section 207(b)'s requirement that manufacturers may not invalidate a warranty based on the use of a *certified* aftermarket part is not affected by the use of anti-tampering strategies; nor is section 207(c)'s requirement that manufacturer manuals contain language indicating that service of the vehicles may be performed by any repair operation using any *certified* part. This rule does not change manufacturers' continuing obligation to provide aftermarket service providers with all information provided to dealerships regarding emission related repair, including the ability to reprogram computers.

EPA refers to its previous discussions of these issues in the Service Information Availability rule and the OBD waiver decision (61 FR 53371), as well as its responsive briefs and the decision of the court in the D.C. Circuit

case recently decided. (The Response to Comments document for the Service Information Availability rule, the Decision Document for the OBD waiver decision, and the responsive briefs have all been placed in the docket for this rulemaking, Air Docket A–96–32.)

Regarding the comments providing examples of MIL illuminations that have been encountered by the automotive aftermarket (IV–G–05), EPA does not believe these examples provide any basis for revising its proposal.

The first example is an Internet conversation from 1995 which, though difficult to decipher, appears to indicate the parties having difficulty in installing aftermarket performance parts that cause the MIL to illuminate on a particular vehicle. The second example is a February 9, 1995 correspondence from a fuel systems manufacturer to the California Air Resources Board suggesting that, if the manufacturer does not receive privileged OBD system parameters, the manufacturer will have to discontinue manufacturing and selling its systems.

Both of these examples refer to the same issue: that of the need for aftermarket parts manufacturers to build their parts to be compatible with OBD systems. There is little question that the advent of vehicle OBD systems has required some aftermarket parts manufacturers to work within tighter constraints in building their parts. Certainly, some manufacturers will need to perform more testing or do further analysis in designing their parts. However, the Agency fully believes that aftermarket parts manufacturers, who have had to continue revising their parts as vehicles have become more sophisticated, will continue to be able to build such parts in the future. The Agency believes that fully compliant systems can be designed via reverse engineering of the original equipment configuration, or more thorough testing protocols. Though manufacturer anti-tampering subprograms may make reverse engineering somewhat more difficult, reverse engineering is not impossible nor do these regulations make such activities illegal. Additionally, parts manufacturers may receive proprietary information through licensing agreements with OEMs. The Agency has discussed the latter correspondence with CARB and CARB suggests that this aftermarket parts manufacturer, without OBD system parameters, has made good progress in meeting CARB's OBD II regulations without negative impacts on their business.

In any case, these additional constraints will occur whether manufacturers comply with the federal OBD requirements (even prior to this regulatory revision) or California's OBD II requirements. There is nothing unique to California's OBD II hardware requirements that particularly disadvantages aftermarket parts manufacturers. Regarding anti-tampering mechanisms, as discussed above, these mechanisms protect information that is proprietary in nature and that is not required to be made available under section 202(m)(5). All information that is subject to section 202(m)(5) must now be made available under the Service Information Rule, which had not been promulgated at the time of these correspondences.

The next example involves a series of letters between the California Air Resources Board and an aftermarket parts manufacturer requesting data and information from that manufacturer as to how their aftermarket parts impact OBD systems in order to receive a waiver under California's aftermarket parts regulations. In their letter of response, the parts manufacturer stated that this data cannot be provided unless the parts manufacturer had access to specific OBD technical and operational data. EPA does not operate a mandatory parts certification program, so this example is not pertinent.

One final example is a letter that deals with the issue of false MIL illuminations; in particular, one associated with changing tire diameter from 16" to 19," and the other associated with installing a generator on a Class C motor home. The comment claims that these modifications did not impact emission performance in any manner, implying that the resultant MIL illumination is consequently false. In the example of changing tire diameter, it is conceivable that changing tire diameter could be interpreted by the OBD system in such a way that, for example, may alter the fueling strategy of the vehicle which in turn may cause emissions to increase. However, since no emission data were provided with the example, the implication is impossible to verify. In the example of the Class C motor home, the Agency believes that such a vehicle would be outside the scope of this rulemaking, which applies only to light-duty vehicles and light-duty trucks. As stated above, there is little question that the advent of vehicle OBD systems has required some market parts manufacturers to work within tighter constraints in building their parts. The Agency believes that fully compliant systems can be designed via reverse engineering of the original equipment configuration, or more thorough testing protocols. Additionally, parts manufacturers may receive proprietary information through licensing agreements with OEMs. In any event, as discussed above, nothing in § 202(m)(5) requires that aftermarket parts manufacturers be entitled to information for making parts. *See MEMA* v. *Nichols*, 142 F.3d at 465. Nor does section 202(m)(5) indicate that EPA should require automobile manufacturers to give away their proprietary information. In fact, § 202(m)(5) suggests the opposite, that EPA's regulations be limited by CAA restrictions on the release of trade secrets.

Another example provided by this letter suggests that false MIL illumination has occurred following installation of high-powered aftermarket sound systems. This example suggests that these amplifiers cause battery voltage to drop and that OBD system parameters would be needed by the aftermarket to avoid the false MIL. No data was supplied to support this example and it is unclear to the Agency why a properly installed sound system with the appropriate rating for the particular vehicle would draw battery voltage down so low. Further, it is difficult to understand how the availability of OBD parameters would rectify the situation given that battery voltage being drawn so low is very likely to create an excessive draw on the alternator which is likely to have adverse emission impacts; MIL illumination would seem appropriate in such a circumstance.

Regarding Mr. Heyler's concerns that information needed for repairs has not been made available to independent repair facilities under California's OBD II regulations, and that language be added to those regulations indicating that "information—which is made available to dealer-owned repair facilities—be made available to all independents on a contractual basis at a reasonable cost," EPA's Service Information regulations were promulgated for the purpose of ensuring that independent service facilities have access, at a reasonable cost, to the same information to which dealer-owned facilities have access. As of December 1, 1997, manufacturers are required to make available to independent service providers reprogramming capability for all emission-related programming events for vehicles beginning with model year 1994. Regarding Mr. Heyler's comments on the manufacture of independent parts, see the response to the aftermarket comments provided above.

Regarding CAWA's comments, EPA notes that its service information

requirements are applicable in California, as EPA made clear in its OBD waiver proceeding.

EPA notes that this rule will have no effect on the likelihood or ability of manufacturers to incorporate anti-tampering strategies; however, EPA notes that the version of the California OBD II regulations being referenced in today's rulemaking actually contain less stringent and less specific anti-tampering provisions than the version to which EPA had previously referred. This is consistent with the statement of Mr. Haluza regarding the draft regulation.

Additionally, on March 23, 1995, EPA published a direct final rulemaking (60 FR 55521) that removed any requirement for manufacturers to install anti-tampering strategies on federal vehicles, including vehicles certified under the option allowing compliance with California OBD II.

Regarding the issue of whether EPA should extend this compliance option beyond the 1998 model year while the commenters' challenge to the earlier rule is before the D.C. Circuit, the D.C. Circuit has, as noted above, issued an opinion upholding EPA's earlier actions. Regarding the comment's objection to EPA using the final version of California's regulations without opportunity to comment, on February 19, 1998, EPA published in the **Federal Register** a notice that the final California regulations were completed and available in the docket for this rulemaking. EPA provided a thirty day comment period (until March 23, 1998) to allow for comment on California's final regulations. EPA received no further comments in response to the February 19, 1998 notice.

D. Deficiency Provisions

1. Summary of Proposal

The Agency proposed to extend the current flexibility provisions (i.e. "deficiency provisions") contained in 86.094–17(i) indefinitely, rather than being eliminated beyond the 1998 model year. Additionally, the Agency clarified its policy regarding deficiencies and their carryover from one model year to the next.

2. Summary of Comments

Most comments received were in support of the indefinite extension of the deficiency provision. The Agency also received comments expressing concerns regarding a limit on the number of deficiencies that can be granted and not allowing carryover of deficiencies from one model year to the next, except where unreasonable hardware modifications would be necessary. The Agency also received comments suggesting that the complete lack of a diagnostic monitor should be allowed under the deficiency provision.

3. Response to Comments

As stated in the NPRM, the Agency believes that, despite the best attempts by manufacturers to comply with the complex OBD requirements, there will still be unanticipated instances that cannot be remedied in time to meet production schedules. Given the newness and considerable complexity of designing, producing, and installing the components and systems that make up the OBD system, manufacturers have expressed and demonstrated difficulty in complying with every aspect of the OBD requirements, and such difficulty appears likely to continue in future model years. The Agency has already, on February 17, 1998, finalized a provision to extend the EPA's allowance of deficiencies through the 1999 model year. (63 FR 7718.) In today's action, the Agency is finalizing a provision to indefinitely allow for deficiencies beyond the 1999 model year.

With regards to allowing more than one deficiency, as stated in the NPRM, EPA does not intend to certify vehicles that have more than one OBD system deficiency unless it can be demonstrated that correction of the deficiency requires hardware and/or software modifications that absolutely cannot be accomplished in the time available, as determined by the Administrator. These limitations should prevent a manufacturer from using a deficiency allowance as a means to avoid compliance or delay OBD implementation.

With regards to the carryover of deficiencies from one model year to the next, the Agency will finalize a provision to allow for the carryover of a deficiency from one model year to the next where unreasonable hardware or software modifications would otherwise be necessary to eliminate the deficiency. The Agency agrees with comments that there may be instances where deficiencies may not be discovered until late in the development process and there may not be enough time to develop software changes, new calibrations and validation testing to ensure a reliable software change.

The Agency does not intend that the deficiency provisions be used as a long term planning tool by the manufacturers, but rather as a flexibility to address last minute problems. Requests for the carryover of deficiencies must be approved by the Administrator well in advance of certification with ample demonstration by the manufacturer that correction of the deficiency requires hardware and/or software modifications that absolutely cannot be made in time to meet production schedules.

Furthermore, EPA will not accept any deficiency requests that include the complete lack of a major diagnostic monitor ("major" diagnostic monitors being those for the catalyst, oxygen sensor, engine misfire, and evaporative leaks), with the possible exception of the special provisions for alternate fueled vehicles discussed below. With regards to the allowing of deficiencies for "major" diagnostic monitors, the Agency does not have the authority to certify a vehicle that does not meet the minimum requirements of the Clean Air Act (i.e., oxygen sensor monitor, catalyst monitor, and standardization features). Given that oxygen sensor monitors and catalyst monitors are now standard equipment on gasoline-fueled vehicles, it is not arguable that such monitors cannot be installed in such vehicles. Furthermore, the Agency considers these and other major monitors to be critical aspects of a working OBD system. Without these monitors, or any subset of these monitors, the OBD system does not meet the minimum requirements that EPA believes is necessary for a viable OBD system.

E. Diagnostic Readiness Codes

1. Summary of Proposal

In the proposal, EPA provided clarification on the issue of diagnostic readiness codes, rather than proposing anything new, and requested comment on the clarification. The purpose behind the readiness code is to allow an inspection and maintenance (I/M) official to determine whether or not a vehicle has undergone sufficient operation to allow the OBD system to fully evaluate the emission control system. Readiness codes allow the I/M official to be certain that the lack of OBD diagnostic trouble codes means that the vehicle is operating cleanly, rather than perhaps being an indication that the OBD system simply had not had time to fully evaluate the vehicle. The I/M readiness codes, for those monitors that have associated I/M readiness codes, should be set to "ready" status only after sufficient vehicle operation such that the monitor has been properly exercised and a valid determination can be made as to component's or system's operational status.

2. Summary of Comments

AAMA recommended that the Agency put in place a provision that would

allow for the clearing of OBD readiness codes for affected monitors if monitoring is disabled for a number of driving cycles due to extreme operating conditions. For example, the evaporative leak detection monitor is typically disabled at temperatures below 40 °F to avoid false MILs due to freezing vapors in the fuel lines. The comment argues that it would be unfair if a vehicle failed to pass an I/M inspection because it had stayed in extreme conditions during the time between a maintenance that included disconnecting the battery (which clears I/M readiness codes) and the I/M inspection.

3. Response to Comments

The Agency agrees that there may be conditions under which certain monitors will not and should not run. In particular, the Agency is aware that evaporative system monitors, when exposed to extremely low ambient temperatures, will not be able to run because any water vapor in the fuel lines can freeze. Such freezing is not unusual, but it does make attempts at leak detection very difficult and increases the likelihood of false failure determinations. Because these readiness codes are intended to assist in Inspection and Maintenance programs, the Agency is sensitive to the possibility that consumers may bring their vehicles in for inspection with readiness codes that are set to "not ready" because a particular monitor was not able to run.

Therefore, the Agency is today finalizing a provision that will allow for readiness flags to be set to "ready" if monitoring is disabled for at least two driving cycles due to the continued presence of extreme operating conditions (such as ambient temperatures below 40 °F, or altitudes above 8000 feet). Administrator approval must be obtained in advance and shall be based on the conditions for monitoring system disablement and the number of driving cycles specified without completion of monitoring before readiness is indicated.

F. Provisions for Alternate Fuel Vehicles

1. Summary of Proposal

The Agency proposed a flexibility provision for alternate fuel vehicles through the 2004 model year. Currently, alternate fuel vehicles must fully comply with federal OBD requirements beginning in the 1999 model year. Under the proposed provision, alternate fuel vehicles must fully comply with federal OBD requirements during gasoline operation beginning in the 1999 model year. However, during alternate fuel operation, some monitors may be deactivated where technological infeasibility can be demonstrated and the Administrator has provided approval.

2. Summary of Comments

The Agency received several comments in support of the proposed alternate fuel provision through the 2004 model year. The arguments made by commenters suggest that significant technological hurdles still face the alternate fuel industry in fully complying with the federal OBD requirements. For example, the catalyst is designed for control of emissions from gasoline fuels. The auto manufacturers have generated large amounts of data on the durability of catalysts during gasoline operation. Such is not the case for catalyst durability during alternate fuel operation. As a result, it appears that no manufacturer can currently calibrate a catalyst monitor for proper malfunction detection at high mileages since so little data exists showing the emission durability after 100k miles of alternate fuel operation. Therefore, commenters recommend that more lead time be given to fully explore this and other technological hurdles still facing OBD implementation on alternate fuel vehicles.

3. Response to Comments

The Agency agrees with the commenters that technological feasibility remains an issue for OBD systems on alternate fuel vehicles. As the Agency stated in the proposal, it is supportive of the use of alternate fuel vehicles and is committed to seeing larger volumes of EPA certified alternate fueled vehicles produced and sold. Therefore, the Agency will finalize a provision to allow flexibility in the OBD monitoring requirements during alternate fuel operation. This provision is intended to provide additional leadtime for alternate fuel OBD development. The provision extends through the 2004 model year only; it requires a demonstration of technological infeasibility and Administrator approval; and, it does not apply to alternate fuel vehicles while operating on gasoline or diesel fuel (for diesel cycle engines). To clarify, this flexibility is intended to apply only during operation on an alternate fuel and even then the flexibility applies only to the extent manufacturers can show that diagnostic strategies for alternate fuel operation are technologically infeasible. Manufacturers will be required to include monitoring strategies to the extent feasible, but will not be required to include monitoring strategies the reliability of which is still doubtful for alternate fuel operation. Further, EPA will expect that vehicles designed for use on more than one fuel (i.e. flexible fuel vehicles) have fully operating OBD systems upon initial sale. Should a non-gasoline fuel then be introduced, the monitors affected by the alternate fuel could be deactivated to the extent the manufacturers can show that reliable diagnostic strategies are not feasible.

G. Update of Materials Incorporated by Reference

1. Summary of Proposal

The Agency proposed to Incorporate by Reference a series of standardized Society of Automotive Engineers (SAE) and International Standards Organization (ISO) procedures. The SAE documents are SAE J1850, SAE J1877, SAE J1892, SAE J1962, SAE J1979, and SAE J2012. The ISO documents proposed to be Incorporated by Reference were ISO 9141–2 and ISO 1423–4.

2. Summary of Comments

The Agency received no adverse comment on the Incorporation by Reference of the SAE and ISO standardized procedures. One commenter suggested the incorporation by reference of the ISO engine symbol for the malfunction indicator light (MIL) to use in place of the wording "check engine" or "service engine soon".

3. Response to Comments

The Agency will Incorporate by Reference all of the SAE and ISO standardized procedures with the exception of ISO 14230–4. This document has not been finalized by the International Standards Organization and therefore cannot be Incorporated by Reference in Agency regulations. Regarding the use of the ISO engine symbol for the malfunction indicator light, the Agency agrees with such a policy and has approved such MIL designs whenever they have been requested. To eliminate the need for the manufacturer to request Administrator approval of such MIL designs, and because the Agency believes that engine symbols are universally recognized without the need to understand the English phrases "Service Engine Soon" or "Check Engine," the final regulations contain a provision allowing use of a universally recognized engine symbol.

H. Diesel Cycle Vehicles

1. Summary of Proposal

In the regulatory language of the NPRM, the Agency incorrectly referred to sections of the regulatory language that did and did not apply to diesel cycle vehicles and trucks. The proposed regulatory language stated that § 86.099–17 paragraphs (b)(2) and (b)(3) did not apply to diesels, and that only § 86.099–30 paragraph (f)(4) did apply to diesels.

2. Summary of Comments

Comments received from AAMA suggested that there were several oversights as to which paragraphs of these sections did not apply to diesel cycle engines.

3. Response to Comments

The Agency agrees that there were oversights as to which of the paragraphs contained in the sections noted above apply to diesel cycle engines. In section § 86.099–17, paragraphs (b)(2) through (b)(4) do not apply to diesel cycle engines. In section § 86.099–30, paragraphs (f)(1) through (f)(4) do not apply to diesel cycle engines.

I. Certification Requirements

1. Summary of Proposal

The Agency did not propose any changes to the federal OBD certification requirements.

2. Summary of Comments

The Agency received comments from AAMA regarding their concern that the NPRM regulatory language does not provide opportunities for manufacturers to provide engineering reports or other information that may alleviate problems on an emission data vehicle or other test vehicle before the vehicle is produced for sale. AAMA contends that last minute OBD calibration changes are often required after the emission certification calibrations have been established and that the emission data vehicle may not contain a finalized OBD calibration. AAMA contends that this opportunity is currently allowed by the Agency for other emission related changes made by the manufacturer and should be permitted for OBD systems as well.

AAMA also expressed concern with regards to EPA inducing component faults that could potentially damage official certification vehicles. AAMA contends that such testing should be done only on development vehicles which would avoid the risk of damaging their certification vehicles while still providing the data needed by EPA.

3. Response to Comments

The Agency's running change regulations codified in 40 CFR 86.079–32, 86.079–33, and 86.079–34, allow the manufacturer to be given the opportunity to provide an engineering report or description of any follow-up actions that will alleviate any OBD concerns discovered on emissions or fuel economy data vehicles.

With regards to concerns over inducing component-damaging faults on official certification vehicles, since it is not the Agency's intent to damage such vehicles, EPA agrees to consult with the manufacturer to ensure that appropriate test vehicles are used for such purposes.

J. Comments on Cost Effectiveness and Environmental Impact

1. Summary of Proposal

In the preamble to the NPRM, the Agency stated that the proposed changes to the federal OBD program would not have an annual effect on the economy of $100 million or more, nor would they adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities.

With regards to environmental impact, the Agency proposed no changes that were expected to impact the originally estimated emissions reductions or air quality impact analyses finalized in the February 1993, federal OBD regulations (58 FR 9468).

2. Summary of Comments

The Agency received one unsubstantiated comment from an individual who stated that this regulation would have an effect on the economy that would exceed $100 million annually. The commenter suggests that OBD technology is changing the vehicle repair industry and forcing service facilities to adopt expensive and unreliable state-of-the art technologies that add substantial costs to the diagnosis and repair of OBD equipped vehicles. This commenter goes on to state that the proposed regulations would have minimal effect on the environment.

3. Response to Comments

Regarding the concern that OBD technology is imposing significant cost on the repair industry, the Agency's Service Information Availability regulations (60 FR 55521) require that emission related vehicle repair information and the necessary tools to access the OBD system be made available by the auto manufacturer to the service and repair industry, and that it be available at competitive prices. The Agency disagrees that the provisions being finalized today or the issues raised by the commenter will have an annual impact on the economy greater than $100 million (See Section V.—Cost Effectiveness).

Regarding comments that the proposed regulations will provide no environmental benefit to the public, the Agency does not agree. The changes proposed in the NPRM and being finalized today neither increase nor decrease the emission reductions expected from the OBD program. However, the Agency disagrees that OBD systems in general will provide no benefits. EPA provided emissions and air quality analyses in the initial federal OBD regulations (58 FR 9468, February 19, 1993) illustrating substantial emission reductions associated with OBD.

V. Cost Effectiveness

This final rulemaking alters an existing provision by revising the current federal OBD malfunction thresholds. These revisions will result in essentially equivalent stringency for the major emission control system monitors, while slightly relaxing stringency in certain cases for some more minor emission control system monitors. Because most of industry has requested that EPA harmonize emission thresholds with the California OBD II thresholds as a means to minimize resource requirements, EPA believes that the regulations being finalized today will provide cost savings by eliminating the need to incur significant recalibration and/or retesting costs and efforts associated with having two sets of OBD regulations with which to comply.

However, EPA is aware that some OEMs, particularly extremely small volume import manufacturers, may have concentrated their efforts on the unique federal OBD malfunction thresholds. EPA believes that the primary cost imposed on these particular OEMs associated with the regulations being finalized today would be for the mandatory evaporative system leak detection monitoring. These systems have been estimated by EPA to cost $18 per vehicle (58 FR 9483). The Agency estimates that the total potential additional cost of this regulation resulting from mandating the evaporative leak detection monitor will be substantially less than $20 million annually beginning in model year 2001. In addition, the Agency believes that mandating the evaporative system leak detection monitor would not increase

the total cost of the federal OBD program. The cost of this monitor was taken into consideration in the original federal OBD regulations (58 FR 9468) even though this monitor was originally optional. Additionally, extremely small volume import manufacturers that are set for compliance with the current federal OBD thresholds will be required to reevaluate their OBD calibrations and would require potential rework to comply with the thresholds finalized today. Because this recalibration effort could be resource intensive, the Agency requested comments on the level of burden and potential means of resolving this concern should it be warranted based on the burden imposed. The Agency received comments indicating that it would be appropriate to allow manufacturers that have been set for compliance with the current federal OBD thresholds to meet such thresholds for two additional years. EPA has agreed to allow this in the final rule.

The automotive aftermarket industry has argued that the provisions of the regulations being finalized today will impose heavy economic burdens on that industry. The automotive aftermarket has made claims of heavy economic burdens during development of the California OBD II regulations and the ensuing waiver process during which California requested a waiver from federal preemption for the purpose of enforcing their unique OBD program. The aftermarket has also argued that excessive costs will be incurred because the anti-tampering measures required under the California OBD II regulations will present more difficulty for the automotive aftermarket in carrying out their business of reverse engineering original equipment manufacturer (OEM) parts and designing replacement or specialty parts. However, EPA is not including CARB's anti-tampering provisions in its incorporation of California's regulations. Failure to incorporate these provisions still allows OEMs to voluntarily implement anti-tampering measures, but such is also the case under the current federal OBD regulations. Any costs associated with these anti-tampering devices are not a result of this rule, but of independent actions by manufacturers. Moreover, CARB has eliminated the anti-tampering provisions considered most egregious by the aftermarket.[4] Therefore, EPA believes that the provisions of this final rulemaking are not responsible for increased costs on the automotive aftermarket.

The costs and emission reductions associated with the federal OBD program were developed for the February 19, 1993, final rulemaking. The changes being finalized today do not affect the costs or emission reductions published as part of that rulemaking, with the possible exception of decreasing costs for larger volume manufacturers.

VI. Public Participation

The Agency held a public hearing on July 9, 1997 for public testimony on the proposed revisions. Those comments and the additional comments received during the public comment period are available in Air Docket A–96–32. The comments received on the proposed revisions are discussed and addressed in section IV. of this final rulemaking.

VII. Administration Requirements

A. Executive Order 12866

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency must determine whether the regulatory action is "significant" and therefore subject to OMB review and the requirements of the Executive Order.

The Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or, (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

This action was submitted to OMB for review pursuant to Executive Order 12866.

B. Reporting and Recordkeeping Requirements

Today's action does not impose any new information collection burden. The modifications proposed above do not change the information collection requirements submitted to and approved by OMB in association with the OBD final rulemaking (58 FR 9468, February 19, 1993; and, 59 FR 38372, July 28, 1994). The Office of Management and Budget (OMB) has previously approved the information collection requirements contained in 40 CFR 86.084–17 under the provisions of the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* and has assigned OMB control number 2060–0104 (EPA ICR No. 783.36).

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

Copies of the Information Collection Request (ICR) document may be obtained from Sandy Farmer, by mail at OP Regulatory Information Division; U.S. Environmental Protection Agency (2137) ; 401 St., S.W. Washington DC 20640, by email at farmer.sandy epa mail.epa.gov.or by calling (202) 260–2740. An Agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control number s for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

C. Impact on Small Entities

EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule. This rule will not have a significant adverse economic impact on a substantial number of small businesses. This rulemaking will provide regulatory relief to both large and small volume automobile manufacturers by maintaining consistency with California OBD II requirements. It will not have a substantial impact on such entities. This rulemaking will not have a significant impact on businesses that manufacture, rebuild, distribute, or sell automotive parts, nor those involved in automotive service and repair, as the revisions affect only requirements on automobile manufacturers. *See United Distribution Companies* v. *FERC,* 88 F.3d 1005, 1170 (D.C. Cir. 1996).

[4] CARB Mail-Out #97–24, amendments to the California Code of Regulations section 1968.1, paragraph (d).

In the absence of this final rule, the expiration of the § 86.094–17(j) provision allowing optional demonstration of compliance with California OBD II requirements to suffice for EPA certification purposes would necessitate full vehicle manufacturer compliance with the current federal OBD requirements at § 86.094–17(a) through (h), beginning with the 1999 model year. Most manufacturers have thus far chosen to reduce their costs by producing vehicle OBD systems to California specifications, thereby avoiding the necessity of developing significantly different OBD calibrations meeting the existing federal specifications, for the non-California market. Because the final rule modifies federal requirements to capture many benefits of the California option, EPA believes that it reduces manufacturer costs over a no-action baseline for 1999 and later model years.

Further, figures provided by the U.S. Departments of Labor and Commerce show the estimated cost of vehicle changes to meet 1996 model year OBD II requirements to be less than 1% of total vehicle cost. Because these changes already incorporate increased monitoring that is required to meet California OBD II requirements and is also required by the final rule, the rule is not expected to significantly increase OBD system cost beyond the estimate given.

D. Unfunded Mandates Act

Under Section 202 of the Unfunded Mandates Reform Act of 1995 ("Unfunded Mandates Act"), signed into law on March 22, 1995, EPA must prepare a budgetary impact statement to accompany any proposed or final rule that includes a Federal mandate that may result in estimated costs to State, local, or tribal governments in the aggregate; or to the private sector of $100 million or more. Under Section 205, EPA must select the most cost effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule.

EPA has determined that the action finalized today would not include a Federal mandate that may result in estimated costs of $100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector.

E. Submission to Congress and the Comptroller General

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This rule is not a "major rule" as defined by 5 U.S.C. 804(2).

F. Applicability of Executive Order 13045: Children's Health Protection

This final rule is not subject to E.O. 13045, entitled "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it does not involve decisions on environmental health risks or safety risks that may disproportionately affect children.

G. Enhancing Intergovernmental Partnerships

Under Executive Order 12875, EPA may not issue a regulation that is not required by stature and that creates a mandate upon a State, local or tribal government, unless the federal government provides the funds necessary to pay the direct compliance costs incurred by those governments or EPA consults with those governments. If EPA complies by consulting, Executive Order 12875 requires EPA to provide to the Office of Management and Budget a description of the extent of EPA's prior consultation with representative of affected State, local and tribal governments, the nature of their concerns, copies of any written communications from the governments, and a statement supporting the need to issue the regulation. In addition, Executive Order 12875 requires EPA to develop an effective process permitting elected officials and other representative of State, local and tribal governments "to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates."

This rule will be implemented at the federal level and imposes compliance obligations only on private industry. The rule thus creates no mandate on State, local or tribal governments, nor does it impose any enforceable duties on these entities. Accordingly, the requirements of Executive Order 12875 do not apply to this rule.

H. Consultation and Coordination With Indian Tribal Governments

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the federal governments or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected and other representative of Indian tribal governments "to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities."

This rule does not significantly or uniquely affect the communities of Indian tribal governments. As noted above, this rule will be implemented at the federal level and imposes compliance obligations only on private industry. Accordingly, the requirements of Executive Order 13084 do not apply to this rule.

List of Subjects in 40 CFR Part 86

Environmental protection, Administrative practice and procedure, Confidential business information, Incorporation by reference, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements.

Dated: November 25, 1998.

Carol M. Browner,

Administrator.

For the reasons set out in the preamble, part 86 of title 40 of the Code of Federal Regulations is amended as follows:

PART 86—CONTROL OF EMISSIONS FROM NEW AND IN-USE HIGHWAY VEHICLES AND ENGINES

1. The authority citation for part 86 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

2. Section 86.1 is amended by adding the following entries in numerical order

to the table in paragraph (b)(2) and by adding paragraph (b)(5) to read as follows:

§ 86.1 Reference materials.

* * * * *

(b) * * *

(2) * * *

Document No. and name	40 CFR part 86 reference
* * * * *	
SAE J1850, July 1995, Class B Data Communication Network Interface	86.099–17
SAE J1877, July 1994, Recommended Practice for Bar-Coded Vehicle Identification Number Label	86.095–35
SAE J1892, October 1993, Recommended Practice for Bar-Coded Vehicle Emission Configuration Label	86.095–35
SAE J1962, January 1995, Diagnostic Connector	86.099–17
SAE J1979, July 1996, E/E Diagnostic Test Modes	86.099–17
SAE J2012, July 1996, Recommended Practices for Diagnostic Trouble Code Definitions	86.099–17
* * * * *	

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(5) *ISO material.* The following table sets forth material from the International Organization of Standardization that has been incorporated by reference. The first column lists the number and name of the material. The second column lists the section(s) of this part, other than § 86.1, in which the matter is referenced. The second column is presented for information only and may not be all inclusive. Copies of these materials may be obtained from the International Organization for Standardization, Case Postale 56, CH–1211 Geneva 20, Switzerland.

Document No. and name	40 CFR part 86 reference
ISO 9141–2, February 1994, Road vehicles—Diagnostic systems Part 2	86.099–17

Subpart A—[Amended]

§ 86.094–21 [Amended]

3. Section 86.094–21 is amended by removing and reserving paragraph (i).

4. Section 86.095–35 is amended by revising paragraph (i) to read as follows:

§ 86.095–35 Labeling.

* * * * *

(i) All light-duty vehicles and light-duty trucks shall comply with SAE Recommended Practices J1877 July 1994, "Recommended Practice for Bar-Coded Vehicle Identification Number Label," and J1892 October 1993, "Recommended Practice for Bar-Coded Vehicle Emission Configuration Label." SAE J1877 and J1892 are incorporated by reference. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies may be obtained from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096–0001. Copies may be inspected at Docket No. A–90–35 at EPA's Air Docket (LE–131), room 1500M, 1st Floor, Waterside Mall, 401 M Street, SW., Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

5. Section 86.098–17 is amended by revising paragraphs (b)(2) through (j) to read as follows:

§ 86.098–17 Emission control diagnostic system for 1998 and later light-duty vehicles and light-duty trucks.

* * * * *

(b)(2) through (i) [Reserved]. For guidance see § 86.094–17.

(j) Demonstration of compliance with California OBD II requirements (Title 13 California Code Sec. 1968.1), as modified pursuant to California Mail Out #97–24 (December 9, 1997), shall satisfy the requirements of this section, except that compliance with Title 13 California Code Secs. 1968.1(b)(4.2.2), pertaining to evaporative leak detection, and 1968.1(d), pertaining to tampering protection, are not required to satisfy the requirements of this section.

6. A new § 86.099–17 is added to read as follows:

§ 86.099–17 Emission control diagnostic system for 1999 and later light-duty vehicles and light-duty trucks.

(a) All light-duty vehicles and light-duty trucks shall be equipped with an on-board diagnostic (OBD) system capable of monitoring, for each vehicle's useful life, all emission-related powertrain systems or components. All systems and components required to be monitored by these regulations shall be evaluated periodically, but no less frequently than once per Urban Dynamometer Driving Schedule as defined in Appendix I, paragraph (a), of this part, or similar trip as approved by the Administrator.

(b) *Malfunction descriptions.* The OBD system shall detect and identify malfunctions in all monitored emission-related powertrain systems or components according to the following malfunction definitions as measured and calculated in accordance with test procedures set forth in subpart B of this part, excluding those test procedures described in § 86.158–00. Paragraph (b)(1) of this section does not apply to diesel cycle light-duty vehicles or diesel cycle light-duty trucks, except where the catalyst is needed for NMHC control. Paragraphs (b)(2), (b)(3), and (b)(4) of this section do not apply to diesel cycle light-duty vehicles or diesel cycle light-duty trucks.

(1) Catalyst deterioration or malfunction before it results in an increase in NMHC emissions 1.5 times the NMHC standard, as compared to the NMHC emission level measured using a representative 4000 mile catalyst system.

(2) Engine misfire resulting in exhaust emissions exceeding 1.5 times the applicable standard for NMHC, CO or NO_X; and any misfire capable of damaging the catalytic converter.

(3) Oxygen sensor deterioration or malfunction resulting in exhaust emissions exceeding 1.5 times the applicable standard for NMHC, CO or NO_X.

(4) Any vapor leak in the evaporative and/or refueling system (excluding the tubing and connections between the purge valve and the intake manifold) greater than or equal in magnitude to a leak caused by a 0.040 inch diameter orifice; any absence of evaporative purge air flow from the complete evaporative emission control system. On vehicles with fuel tank capacity greater than 25 gallons, the Administrator may, following a request from the manufacturer, revise the size of the orifice to the smallest orifice feasible, based on test data, if the most reliable monitoring method available cannot reliably detect a system leak equal to a 0.040 inch diameter orifice.

(5) Any deterioration or malfunction occurring in a powertrain system or component directly intended to control emissions, including but not necessarily limited to, the exhaust gas recirculation (EGR) system, if equipped, the secondary air system, if equipped, and the fuel control system, singularly resulting in exhaust emissions exceeding 1.5 times the applicable emission standard for NMHC, CO or NO_X For vehicles equipped with a secondary air system, a functional check, as described in paragraph (b)(6) of this section, may satisfy the requirements of this paragraph provided the manufacturer can demonstrate that deterioration of the flow distribution system is unlikely. This demonstration

is subject to Administrator approval and, if the demonstration and associated functional check are approved, the diagnostic system shall indicate a malfunction when some degree of secondary airflow is not detectable in the exhaust system during the check. For vehicles equipped with positive crankcase ventilation (PCV), monitoring of the PCV system is not necessary provided the manufacturer can demonstrate to the Administrator's satisfaction that the PCV system is unlikely to fail.

(6) Any other deterioration or malfunction occurring in an electronic emission-related powertrain system or component not otherwise described above that either provides input to or receives commands from the on-board computer and has a measurable impact on emissions; monitoring of components required by this paragraph shall be satisfied by employing electrical circuit continuity checks and rationality checks for computer input components (input values within manufacturer specified ranges), and functionality checks for computer output components (proper functional response to computer commands) except that the Administrator may waive such a rationality or functionality check where the manufacturer has demonstrated infeasibility; malfunctions are defined as a failure of the system or component to meet the electrical circuit continuity checks or the rationality or functionality checks.

(7) Oxygen sensor or any other component deterioration or malfunction which renders that sensor or component incapable of performing its function as part of the OBD system shall be detected and identified on vehicles so equipped.

(8) Alternatively, for model years 1999 and 2000, engine families may comply with the malfunction descriptions of § 86.098–17(a) and (b) in lieu of the malfunction descriptions in paragraphs (a) and (b) of this section. This alternative is not applicable after the 2000 model year.

(c) *Malfunction indicator light.* The OBD system shall incorporate a malfunction indicator light (MIL) readily visible to the vehicle operator. When illuminated, it shall display "Check Engine," "Service Engine Soon," a universally recognizable engine symbol, or a similar phrase or symbol approved by the Administrator. A vehicle shall not be equipped with more than one general purpose malfunction indicator light for emission-related problems; separate specific purpose warning lights (e.g. brake system, fasten seat belt, oil pressure, etc.) are permitted. The use of red for the OBD-related malfunction indicator light is prohibited.

(d) *MIL illumination.* The MIL shall illuminate and remain illuminated when any of the conditions specified in paragraph (b) of this section are detected and verified, or whenever the engine control enters a default or secondary mode of operation considered abnormal for the given engine operating conditions. The MIL shall blink once per second under any period of operation during which engine misfire is occurring and catalyst damage is imminent. If such misfire is detected again during the following driving cycle (i.e., operation consisting of, at a minimum, engine start-up and engine shut-off) or the next driving cycle in which similar conditions are encountered, the MIL shall maintain a steady illumination when the misfire is not occurring and shall remain illuminated until the MIL extinguishing criteria of this section are satisfied. The MIL shall also illuminate when the vehicle's ignition is in the "key-on" position before engine starting or cranking and extinguish after engine starting if no malfunction has previously been detected. If a fuel system or engine misfire malfunction has previously been detected, the MIL may be extinguished if the malfunction does not reoccur during three subsequent sequential trips during which similar conditions are encountered (engine speed is within 375 rpm, engine load is within 20 percent, and the engine's warm-up status is the same as that under which the malfunction was first detected), and no new malfunctions have been detected. If any malfunction other than a fuel system or engine misfire malfunction has been detected, the MIL may be extinguished if the malfunction does not reoccur during three subsequent sequential trips during which the monitoring system responsible for illuminating the MIL functions without detecting the malfunction, and no new malfunctions have been detected. Upon Administrator approval, statistical MIL illumination protocols may be employed, provided they result in comparable timeliness in detecting a malfunction and evaluating system performance, i.e., three to six driving cycles would be considered acceptable.

(e) *Storing of computer codes.* The emission control diagnostic system shall record and store in computer memory diagnostic trouble codes and diagnostic readiness codes indicating the status of the emission control system. These codes shall be available through the standardized data link connector per SAE J1979 specifications incorporated by reference in paragraph (h) of this section.

(1) A diagnostic trouble code shall be stored for any detected and verified malfunction causing MIL illumination. The stored diagnostic trouble code shall identify the malfunctioning system or component as uniquely as possible. At the manufacturer's discretion, a diagnostic trouble code may be stored for conditions not causing MIL illumination. Regardless, a separate code should be stored indicating the expected MIL illumination status (i.e., MIL commanded "ON," MIL commanded "OFF").

(2) For a single misfiring cylinder, the diagnostic trouble code(s) shall uniquely identify the cylinder, unless the manufacturer submits data and/or engineering evaluations which adequately demonstrate that the misfiring cylinder cannot be reliably identified under certain operating conditions. The diagnostic trouble code shall identify multiple misfiring cylinder conditions; under multiple misfire conditions, the misfiring cylinders need not be uniquely identified if a distinct multiple misfire diagnostic trouble code is stored.

(3) The diagnostic system may erase a diagnostic trouble code if the same code is not re-registered in at least 40 engine warm-up cycles, and the malfunction indicator light is not illuminated for that code.

(4) Separate status codes, or readiness codes, shall be stored in computer memory to identify correctly functioning emission control systems and those emission control systems which require further vehicle operation to complete proper diagnostic evaluation. A readiness code need not be stored for those monitors that can be considered continuously operating monitors (e.g., misfire monitor, fuel system monitor, etc.). Readiness codes should never be set to "not ready" status upon key-on or key-off; intentional setting of readiness codes to "not ready" status via service procedures must apply to all such codes, rather than applying to individual codes. Subject to Administrator approval, if monitoring is disabled for a multiple number of driving cycles (i.e., more than one) due to the continued presence of extreme operating conditions (e.g., ambient temperatures below 40°F, or altitudes above 8000 feet), readiness for the subject monitoring system may be set to "ready" status without monitoring having been completed. Administrator approval shall be based on the conditions for monitoring system disablement, and the number of driving

cycles specified without completion of monitoring before readiness is indicated.

(f) *Available diagnostic data.* (1) Upon determination of the first malfunction of any component or system, "freeze frame" engine conditions present at the time shall be stored in computer memory. Should a subsequent fuel system or misfire malfunction occur, any previously stored freeze frame conditions shall be replaced by the fuel system or misfire conditions (whichever occurs first). Stored engine conditions shall include, but are not limited to: engine speed, open or closed loop operation, fuel system commands, coolant temperature, calculated load value, fuel pressure, vehicle speed, air flow rate, and intake manifold pressure if the information needed to determine these conditions is available to the computer. For freeze frame storage, the manufacturer shall include the most appropriate set of conditions to facilitate effective repairs. If the diagnostic trouble code causing the conditions to be stored is erased in accordance with paragraph (d) of this section, the stored engine conditions may also be erased.

(2) The following data in addition to the required freeze frame information shall be made available on demand through the serial port on the standardized data link connector, if the information is available to the on-board computer or can be determined using information available to the on-board computer: Diagnostic trouble codes, engine coolant temperature, fuel control system status (closed loop, open loop, other), fuel trim, ignition timing advance, intake air temperature, manifold air pressure, air flow rate, engine RPM, throttle position sensor output value, secondary air status (upstream, downstream, or atmosphere), calculated load value, vehicle speed, and fuel pressure. The signals shall be provided in standard units based on SAE specifications incorporated by reference in paragraph (h) of this section. Actual signals shall be clearly identified separately from default value or limp home signals.

(3) For all emission control systems for which specific on-board evaluation tests are conducted (catalyst, oxygen sensor, etc.), the results of the most recent test performed by the vehicle, and the limits to which the system is compared shall be available through the standardized data link connector per SAE J1979 specifications incorporated by reference in paragraph (h) of this section.

(4) Access to the data required to be made available under this section shall be unrestricted and shall not require any access codes or devices that are only available from the manufacturer.

(g) The emission control diagnostic system is not required to evaluate systems or components during malfunction conditions if such evaluation would result in a risk to safety or failure of systems or components. Additionally, the diagnostic system is not required to evaluate systems or components during operation of a power take-off unit such as a dump bed, snow plow blade, or aerial bucket, etc.

(h) Incorporation by reference materials. The emission control diagnostic system shall provide for standardized access and conform with the following Society of Automotive Engineers (SAE) standards and/or the following International Standards Organization (ISO) standards. The following documents are incorporated by reference. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be inspected at Docket No. A–90–35 at EPA's Air docket (LE–131), room 1500 M, 1st Floor, Waterside Mall, 401 M Street, SW., Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(1) *SAE material.* Copies of these materials may be obtained from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096–0001.

(i) SAE J1850 July 1995, "Class B Data Communication Network Interface," shall be used as the on-board to off-board communications protocol. All emission related messages sent to the scan tool over a J1850 data link shall use the Cyclic Redundancy Check and the three byte header, and shall not use inter-byte separation or checksums.

(ii) Basic diagnostic data (as specified in § 86.094–17(e) and (f)) shall be provided in the format and units in SAE J1979 July 1996, E/E Diagnostic Test Modes.

(iii) Diagnostic trouble codes shall be consistent with SAE J2012 July 1996, "Recommended Practices for Diagnostic Trouble Code Definitions."

(iv) The connection interface between the OBD system and test equipment and diagnostic tools shall meet the functional requirements of SAE J1962 January 1995, "Diagnostic Connector."

(2) *ISO materials.* Copies of these materials may be obtained from the International Organization for Standardization, Case Postale 56, CH–1211 Geneva 20, Switzerland.

(i) ISO 9141–2 February 1994, "Road vehicles—Diagnostic systems—Part 2: CARB requirements for interchange of digital information," may be used as an alternative to SAE J1850 as the on-board to off-board communications protocol.

(ii) [Reserved]

(i) *Deficiencies and alternate fueled vehicles.* Upon application by the manufacturer, the Administrator may accept an OBD system as compliant even though specific requirements are not fully met. Such compliances without meeting specific requirements, or deficiencies, will be granted only if compliance would be infeasible or unreasonable considering such factors as, but not limited to, technical feasibility of the given monitor, lead time and production cycles including phase-in or phase-out of engines or vehicle designs and programmed upgrades of computers, and if any unmet requirements are not carried over from the previous model year except where unreasonable hardware or software modifications would be necessary to correct the non-compliance, and the manufacturer has demonstrated an acceptable level of effort toward compliance as determined by the Administrator. Furthermore, EPA will not accept any deficiency requests that include the complete lack of a major diagnostic monitor ("major" diagnostic monitors being those for the catalyst, oxygen sensor, engine misfire, and evaporative leaks), with the possible exception of the special provisions for alternate fueled vehicles. For alternate fueled vehicles (e.g., natural gas, liquefied petroleum gas, methanol, ethanol), beginning with the model year for which alternate fuel emission standards are applicable and extending through the 2004 model year, manufacturers may request the Administrator to waive specific monitoring requirements of this section for which monitoring may not be reliable with respect to the use of the alternate fuel. At a minimum, alternate fuel vehicles shall be equipped with an OBD system meeting OBD requirements to the extent feasible as approved by the Administrator.

(j) Demonstration of compliance with California OBD II requirements (Title 13 California Code Sec. 1968.1), as modified pursuant to California Mail Out #97–24 (December 9, 1997), shall satisfy the requirements of this section, except that compliance with Title 13 California Code Secs. 1968.1(b)(4.2.2), pertaining to evaporative leak detection, and 1968.1(d), pertaining to tampering protection, are not required to satisfy the requirements of this section, and the deficiency fine provisions of 1968.1(m)(6.1) and (6.2) shall not apply.

7. A new § 86.099–30 is added to read as follows:

§ 86.099–30 Certification.

This § 86.099–30 includes text that specifies requirements that differ from § 86.094–30, § 86.095–30, § 86.096–30, or § 86.098–30. Where a paragraph in § 86.094–30, § 86.095–30, § 86.096–30, or § 86.098–30 is identical and applicable to § 86.099–30, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see § 86.094–30." or "[Reserved]. For guidance see § 86.095–30." or "[Reserved]. For guidance see § 86.096–30." or "[Reserved]. For guidance see § 86.098-30.".

(a)(1) and (a)(2) [Reserved]. For guidance see § 86.094–30.

(a)(3)(i)[Reserved]. For guidance see § 86.098–30.

(a)(3)(ii) and (a)(4)(ii) [Reserved]. For guidance see § 86.095–30.

(a)(4)(iii) introductory text through (a)(4)(iii)(C)[Reserved]. For guidance see § 86.094–30.

(a)(4)(iv) introductory text [Reserved]. For guidance see § 86.095–30.

(a)(4)(iv)(A) through (a)(9)[Reserved]. For guidance see § 86.094–30.

(a)(10)(i) through (a)(11)(ii)(C)[Reserved]. For guidance see § 86.098–30.

(a)(12) [Reserved]. For guidance see § 86.094–30.

(a)(13) [Reserved]. For guidance see § 86.095–30.

(a)(14) [Reserved]. For guidance see § 86.094–30.

(a)(15) through (a)(18) [Reserved]. For guidance see § 86.096–30.

(a)(19) introductory text through (a)(19)(iii) [Reserved]. For guidance see § 86.098–30.

(b)(1) introductory text through (b)(1)(i)(B) [Reserved]. For guidance see § 86.094–30.

(b)(1)(i)(C) [Reserved]. For guidance see § 86.098–30.

(b)(1)(ii) through (b)(1)(iv) [Reserved]. For guidance see § 86.094–30.

(b)(2) [Reserved]. For guidance see § 86.098–30.

(b)(3) through (b)(4)(i) [Reserved]. For guidance see § 86.094–30.

(b)(4)(ii) [Reserved]. For guidance see § 86.098–30.

(b)(4)(ii)(A) [Reserved]. For guidance see § 86.094–30.

(b)(4)(ii)(B) through (b)(4)(iv) [Reserved]. For guidance see § 86.098–30.

(b)(5) through (e) [Reserved]. For guidance see § 86.094–30.

(f) For engine families required to have an emission control diagnostic system (an OBD system), certification will not be granted if, for any test vehicle approved by the Administrator in consultation with the manufacturer, the malfunction indicator light does not illuminate under any of the following circumstances, unless the manufacturer can demonstrate that any identified OBD problems discovered during the Administrator's evaluation will be corrected on production vehicles. Only paragraphs (f)(5) and (f)(6) of this section apply to diesel cycle vehicles and diesel cycle trucks where such vehicles and trucks are so equipped.

(1) A catalyst is replaced with a deteriorated or defective catalyst, or an electronic simulation of such, resulting in an increase of 1.5 times the NMHC standard above the NMHC emission level measured using a representative 4000 mile catalyst system.

(2) An engine misfire condition is induced resulting in exhaust emissions exceeding 1.5 times the applicable standards for NMHC, CO or NO_X.

(3) Any oxygen sensor is replaced with a deteriorated or defective oxygen sensor, or an electronic simulation of such, resulting in exhaust emissions exceeding 1.5 times the applicable standard for NMHC, CO or NO_X.

(4) A vapor leak is introduced in the evaporative and/or refueling system (excluding the tubing and connections between the purge valve and the intake manifold) greater than or equal in magnitude to a leak caused by a 0.040 inch diameter orifice, or the evaporative purge air flow is blocked or otherwise eliminated from the complete evaporative emission control system.

(5) A malfunction condition is induced in any emission-related powertrain system or component, including but not necessarily limited to, the exhaust gas recirculation (EGR) system, if equipped, the secondary air system, if equipped, and the fuel control system, singularly resulting in exhaust emissions exceeding 1.5 times the applicable emission standard for NMHC, CO or NO_X.

(6) A malfunction condition is induced in an electronic emission-related powertrain system or component not otherwise described above that either provides input to or receives commands from the on-board computer resulting in a measurable impact on emissions.

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